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ABSTRACT

A descriptive study was conducted to determine the effectiveness of career pathways and the extent of their alignment within the high school curriculum and the Missouri A+ Schools Program, which builds on other reform efforts such as tech prep and school-to-work to provide all students with a quality education focused on careers and an academic foundation for lifelong learning. Questionnaires were sent to A+ coordinators and school counselors in the 57 Missouri high schools involved in the A+ Schools Program in 1996-97 and to students in the 57 school districts and students attending an area vocational-technical school with A+ Schools funds. Of the 158 individuals who returned questionnaires (70% of the target population), 54% were students, 36% were A+ coordinators, 3% were administrators, and 7% were counselors. Sixty-seven percent of the students had chosen a career pathway upon entering high school, and 91% of students believed that all high school course curricula were linked to a career pathway. When asked whether their school's dropout rate declined after application of A+ concepts, 76% of the school personnel said yes. When asked to suggest ways of improving the career path concept, the responses of students and school personnel focused on the following themes: selection of pathways, enhancing high school curriculum, and student involvement. (Contains 52 references.) (MN)

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Title: The Missouri A+ Schools Program: A Descriptive Study of the Implementation and Alignment of Career Pathways and the A+ Schools Program

With all the changes in today's society, it was inevitable that public education would come under intense pressure to better educate every student. To accommodate these demands, schools have been required to rethink and restructure the curriculum. In this descriptive study the authors explored the effectiveness of career pathway implementation and alignment to existing high school curriculum through the Missouri A+ Schools Program. Specifically, a questionnaire-survey was utilized to investigate and report curriculum alignments within career pathways and the success of the A+ Schools Program under Senate Bill 380 in Missouri. Data obtained from this study were reported in the form of percentages and represented in tables. Findings from this investigation demonstrated a strong reinforcement toward placing students in a career pathway curriculum. Data also indicated that a significant decline in dropout rates occurred in schools who participated in the A+ Schools Program.

The Missouri A+ Schools Program:
A Descriptive Study of the Implementation and Alignment of Career Pathways and the A+ Schools Program

As the twenty-first century nears, the role of schooling in our society has never been more crucial or under more pressure. Public schools are being asked to contribute more than the traditional "three R's" of schooling resulting in their capacities being stretched beyond their limits. In the past, students took classes to prepare for college entrance, or they took classes to prepare for the world of work. College preparatory classes were academic and theoretical and vocational classes were hands on and practical (Dutton, 1995). Few educators considered the fact that all students were going to need practical training and basic career education at some point in their lives.

In the 1950's, the United States economy was able to absorb school dropouts and prepare students for a less demanding job in the manufacturing sector. Now in the 90's there are fewer manufacturing jobs, the population is aging and remaining in jobs longer, more women are in the paid labor force, and immigration has increased (Ryan & Imel, 1995). The economy is being adversely affected, and more importantly, young lives are being affected, by the collective failure to help young people make a smother transition from school to work (William T. Grant Foundation, 1989, p. 39). Approximately 60% of youth pursue some form of post-secondary education, but only about one half of these students are successful in completing a baccalaureate program. About half of all Missouri high school graduates do not go on to college and one in four students entering high school never graduate (Missouri State Department, 1997). In 1996 the dropout rate for Missouri was 31% with the national average at 23% (McCampbell, 1997). However, the dropout rate has dropped in states which have implemented a structure for career pathways into the educational system (McCampbell, 1997).

The premise of the career pathway approach is that academic and career preparation should be integrated to support the career goals of virtually all students, rather than college bound or school-to-work (Ryan & Imel, 1996). School to work initiatives have the potential to dramatically improve education for those students who have traditionally been left uninspired and unprepared by high school (Leonard, 1997). Research shows that cognitive, technical, human relations, and workplace skills when combined with post-secondary education will pay off in a labor market being transformed from low skill to high skill (Halperin, 1994; Secretary's commission on Achieving Necessary Skills, 1991). These same presumptions are at the center of educational policy discussions at the national levels (Pittman, McGinty, & Gerstl-Pepin, 1999). Nationally, the Goals 2000 initiative state that each students' education should produce "the knowledge and skills necessary to compete in a global economy" (Sadker & Sadker, 1997, p. 154). Orr (1998) in analyzing Goals 2000, tech prep, and school to work programs suggested that those three public policy vehicles could be instrumental in creating a coherent work force development system.

In respond to these issues the state of Missouri legislated the Outstanding Schools Act of 1993 as a statewide educational reform initiative that established Senate Bill (SB) 380. Within SB 380, Section 14 established the A+ Schools Act. The A+ Program is a legislated statewide reform effort outlining the frameworks and incentives for providing quality education for all students, focusing on careers and an academic foundation for lifelong learning. The program builds upon and incorporates other reform efforts such as tech-prep and school-to-work. It encourages integrated curriculum and the application of knowledge in teaching/learning methodologies. The program provides challenges and opportunities for restructuring the secondary schools of Missouri (Robison, 1995). In 1998 approximately 130 high schools were involved in the program, and the Missouri Department of Elementary and Secondary Education expects more schools to participate in the future.

The idea that students move from an educational situation into the workplace is not new, but when and how it should occur are the challenges facing educators. For years, many

educators, employers, researchers, and law makers have tried to make explicit the connection between what occurs in school with the skills, knowledge, and behavior individuals need in the workplace (Ryan & Imel, 1995). Can approaches, such as applied academics and authentic learning strategies, which will reach all students graduating from high school, be incorporated effectively into Missouri public schools?

The Commissioner of Education within the Department of Elementary and Secondary Education (DESE) administers the A+ Schools Program. The program consists of grant awards made available to public secondary schools in Missouri that demonstrate a commitment to quality career education for all students. The A+ Schools Program is driven by three major goals. The three goals are as follows: 1.) That all students in Missouri's high schools will graduate from high school; 2.)That all students in Missouri will complete a challenging selection of high school studies with identified learning expectations and; 3.) That all students in Missouri's high schools will proceed from high school graduation to a college or post-secondary vocational or technical school or a high wage job with work place skill development. These goals are paramount to the solvency, revitalization, and economic well being of the state (McCampbell, 1997).

High schools who have adopted career pathway concepts have listed the following benefits (Robison, 1995).

1. Provide a plan for all students, regardless of their interests, abilities, talents, or desired levels of education. All pathways are deemed as equally important.
2. Provide all students with areas of focus, along with flexibility and a variety of ideas to pursue, as they make decisions regarding course selection.
3. Allow students to see a relevance to their selected school courses. Thus, students are more apt to do well in school.
4. Provide course plans for students to follow. Students who have decided on career directions may be less likely to drop out of school and may be more apt to enroll in

mathematics, science, and higher level courses. Career paths can also guide students' participation in programs like school-to-work and tech prep.

5. Help parents and other adults provide better assistance to students as they discuss careers and select courses.

The Issues

The challenges presented for educational reform directly related to career pathways and the A+ School Program are restructuring curriculum, creating linkages to the community through business partnerships, and educating the public about the opportunities offered to the students. These issues are vital components in education today and can help students move into the work force, with skills that make them employable at a high wage job.

The purpose of this study was to explore the effectiveness of career pathways, and to investigate the extent to which they align within the high school curriculum and the Missouri A+ Schools Program. The education system is under pressure to change its approach to preparing youth for work to match the needs of a highly skilled society. Even without the pressure to produce more competitive workers, many educators acknowledge that the system has short changed many and will need to incorporate learning approaches that will reach all young people (Ryan & Imel, 1996). The A+ Schools Program recognizes that an internationally competitive work force in Missouri will require many of its employees to have more than a high school diploma but less than a baccalaureate degree (Outstanding Schools Act, 1993). Hargis (1995) recognizes that good jobs will go primarily to those students who have been properly educated and trained.

The educational system has always had high expectations for the college bound students and with the implementations of career pathways can now prepare to better meet the needs of the non-college bound (school-to-work) student while lowering the dropout rate, as reported by the National Occupational Information Coordinating Committee (NOICC, 1989). About half of the Missouri high school graduates do not go on to college and one in four students entering

high school never graduate. The dropout rate has proven to be lower in other states which have implemented a structure for career pathways in the educational system (Hargis, 1995). An A+ School must eliminate the general education track, which provides no real opportunities for high school graduates or dropouts. The schools under these guidelines also must define the knowledge, skills, and competencies that students must demonstrate to successfully complete individual courses and a career path. Research questions investigated in this study were as follows:

1. Should all students beginning high school in Missouri be expected to declare a career major and adhere to a career pathway?
2. What basic skills do high school graduates have, and for what work are they prepared?
3. Will the A+ Schools initiatives and career goals lower the dropout rate in Missouri?
4. Will students use their career goals to influence educational planning?
5. Will every curriculum link with a career path?

Methods

To examine the various dimensions of these inquiries, a qualitative approach was employed. In this descriptive study, data was collected in order to answer the questions concerning the implementation of career pathways for all students. A questionnaire was utilized to determine and report curriculum alignments within career pathways and the success of the A+ Schools Program. A yearly state review process determines the success of the A+ Schools Program. Schools are to track the dropout rate before and after the implementation of career pathways. The state department agreed to support the study by developing the questionnaire and targeting the population to be researched.

Data for the study was conducted by sending questionnaires to the A+ Schools Coordinators and school counselors in the 57 Missouri schools involved in the grant program during the 1996-97 school year. Nineteen of the schools were in the third year of the program, and 38 of the schools were in the fourth year of the program. Questionnaires were also made

available to students within the 57 school districts and students who are now attending an area vocational technical school (Ozarks Technical College) with A+ Schools funds providing tuition.

The questionnaire included 9 questions consisting of structured and open-ended questions for the individuals to answer and explain if needed. The survey was mailed and/or hand delivered; if the mailing was not returned, a telephone survey was implemented. The sampling was purposeful because specific individuals were selected for the survey. The population for the study was 1997 high school graduates and teachers, counselors, and administrators involved with the A+ Schools Program in Missouri. The Missouri public school graduating class of 1997 had 27 high schools which qualified for A+ status. Students in the nineteen second year schools were also surveyed. These selected schools made up the sample population of this study. One hundred fifty eight questionnaires were completed and returned to the researcher for tabulation. The final sample analyzed by the researcher was 70% of the target population. The data collected was reported in frequencies and percentages as well as anecdotal comments. Percentages and anecdotal notes were used to depict the perceived effectiveness of career pathways within the A+ Schools Program.

Limitations

This study was limited in several ways. First it was limited to participants involved in an A+ School Program in only one state. Thus, direct generalizability to other such programs is not advisable. However, the perceptions of the benefits and outcomes that emerged are instrumental to program stakeholders and to others who plan to implement similar programs and the researchers who study them.

Second, this study did not rely on student achievement data. While students are clearly stakeholders whose views were valued, their achievement data was not indispensable given the purpose of this study.

Findings and Conclusions

Career development has become increasingly important to students who are preparing to work in a society that is typified by changing technologies, job distributions, economic outlooks,

employer requirements and expectations, and family structure. Educators, employers, parents, and students are demanding comprehensive programs that will lead students through a sequential process of career development to enable them to succeed in the future workplace. Through the investigative process, the researcher did come to a conclusion about the impact of placing students in career pathways as they align with the high school curriculum and the A+ Schools Program. The study demonstrates a strong reinforcement toward placing students in a career pathway curriculum.

In analyzing the implementation of career pathways the following categorizes were examined: (a) student involvement, (b) high school curriculum, (c) A+ Schools Program, (d) skills learned in high school, (e) selection of career pathways, and (f) dropout rate. In reference to questions clustered around these categories the data collected will be displayed in tables.

In the area of career pathway selection there were 158 responses to the survey questionnaire. Of the total, 54% were students, 36% were A+ coordinators, 3% were administrators, and 7% were counselors. The return on the questionnaire was much larger for school personnel, 73 out of 94, or a 78% return factor, than for students. Only 65% of the students returned their survey. There were 67% of the respondents who marked yes to choosing a career pathway at the beginning of high school, 34% marked no, and 2% were undecided as displayed in Table 1.

{Insert Table 1}

When asked the question of recommended grade level for selecting a career pathway, the 158 respondents indicated that 18% selected before high school, 40% selected ninth grade, 12% selected tenth grade, 8% selected eleventh grade, 5% selected twelfth grade, 12% selected after high school, and 5% were undecided. The data collected for the recommended grade level in the selection for a career pathway is shown in the following table.

{Insert Table 2}

When asked, "What was your most important source of information in selecting a career pathway," the respondents responded that 40% noted counselors, 13% cited A+ coordinators,

11% marked job experience; 20% marked personal; and 16% marked areas for information other than those listed as shown in Table 3.

{Insert Table 3}

Under the category of skills acquired in high school, which only the students responded to the acquistion of skills ranged from 88% had keyboarding to a low of 27% felt they had acquired skills in vocational areas. Seventy-one percent of the students noted writing skills while 51% had felt they had acquired skills in speaking. Finally, technical skills were acquired by 40% and 29% of the students felt they had machine operation skills.

{Insert Table 4}

Regarding the question asked if all high school course curriculum was preceived to be linked to a career pathway, 91% responded "yes", with 9% responding "no". Table 5 is a summary of their responses.

{Insert Table 5}

The next area of investigation reference to a decline in the school's dropout rate after implementation of an A+ Schools Program. Only school personnel replied to that inquiry. Table 6 is a representation of those results. The respondents were asked if their dropout rate had declined with the applied A+ concepts, 76% answered "yes"; 12% answered "no"; and 12% answered that there was no difference in the drop out rate since implementaing an A+ program.

{Insert Table 6}

When the participants were asked to provide written suggestions to improve the career path concept the following anecdotal responses were given. Thirty-nine percent of the participants responded with a directive and sixty-one had no comment. The researcher received comments from sixteen percent of the students while eighty-four percent of the school personnel wrote comments.

While some commonalties in perspectives existed between school personnel and students involved in the A+ Program, clear differences were also evident. Using the theoretical framework as a guide, analysis of the anecdotal data resulted in findings clustered around three

themes: (1) student issues for selection of pathways; (2) factors that would enhance high school curriculum; and (3) student involvement issues.

Most program stakeholders believed that students should have flexibility in selection of a pathway but that careers should be chosen and a major career declared either in ninth or tenth grade. Also the majority of the respondents believed that all courses should align to a career pathway. Finally the respondents felt that a pathway should be focused and directional.

Factors that were identified regarding curriculum were centered on alignment of curriculum to career pathways and infusion of career pathways into all aspects of the curriculum. Included were comments regarding delivery and methodology to be used such as panel presentations, career fairs, and career exploration with job shadowing.

Student involvement issues centered on program structures that allow for flexibility. The comments indicated support for structures that valued variance in students' background, life experiences, and level of maturity. Additionally, comments were given regarding that students should be expected to declare a career major early but also retain the option to change their choices.

Based on the collective findings of this study, the following conclusions are offered:

1. According to the survey results, a significant portion, 67% of the participants have chosen a career pathway upon entering high school. This leads the researcher to conclude that the students are selecting a career pathway before high school with educational materials, such as an interest inventories and some component of career curriculum. It could be strongly suggested that the A+ Schools Program is an effective means for implementation of such a career education concept.

2. Another conclusion to reinforce the findings would be that 40% of the sample population recommended the ninth grade for selecting a career path, followed by the eighth grade. However, 8%of the respondents were still undecided at what level or when to select a career path.

3. The school counselor was considered the greatest source for information of most importance in selecting a career pathway with 40% of the respondents selecting this source. Justifiable this would support the state model guidance program and provide reference for counselor to be involved with career pathways education. High school counselors which both students and school personnel ranked 80% as an effective method to assist students in selecting a career pathway most often provide interest inventories.

4. It may also be concluded the students who have graduated from a school that had implemented an A+ Schools Program felt they have acquired many necessary skills during high school. Seven individual skills were listed on the questionnaire with a percent of use ranging from 88% keyboarding to 24% in machine operation.

5. In regard to the dropout rate, the study indicated 76% of these sample population schools showed a decline after implementing the A+ Program. With the initiatives in the A+ Schools Program focused on the at-risk student, applied academics, technology advances, and career awareness, this researcher would conclude that the dropout rate would continue to lower. This conclusion was supported by previous studies (McCampbell, 1997).

6. Another important aspect of this study was to determine if the high school curriculum would link to a career path. According to the data, 91 % of the respondents supported the linkage of the curriculum to career pathways. It can then be concluded that school districts provided with A+ Schools concepts have linked their curriculum to a career pathway or a career base. The results of this

study could lead to the conclusion that career pathways will only be successful with the support of the curriculum.

As the twenty-first century nears, the role of schooling in our nation has never been more important. A School to work initiative does have the potential to dramatically improve education for all students. The career pathways program is a comprehensive system that has demonstrated positive influence on high schools and especially the curriculum as perceived by the stakeholders. It appears to be at least one delivery system that can touch all aspects of the curriculum, providing all students with vital preparation for the world of work and lifelong learning. Perhaps John Clendenin (1996)) stated it best, "The bottom line in America's fight for long-term competitiveness ultimately will not be won or lost in the halls of Congress... not in the boardrooms around the world, but in the America's classrooms".

Table 1
Beginning High School Students Choosing a Career Path

Descriptor	Number	Percentage
Yes	106	67%
No	49	31%
Undecided	3	2%

Participants n= 158

Table 2
Grade Level recommended in selecting a Career Pathway

Descriptor	Yes	Percentage
Before High School	28	18%
9th Grade	63	40%
10th Grade	19	12%
11th Grade	13	8%
12th Grade	8	5%
After High School	19	12%
Undecided	8	5%

Participants n=158

Table 3
Most Important Source of Information in Selecting a Career Pathway

Descriptor	Yes	Percent
Counselors	63	40%
A+ Coordinators	21	13%
Job Experience	17	11%
Personal	32	20%
Other	25	16%

Participants n=158

Table 4
Skills Acquired in High School

Descriptor	Yes	Percent	No	Percent
Keyboarding	75	88%	10	12%
Computer Applications	68	80%	17	20%
Writing	60	71%	25	29%
Speaking	43	51%	42	49%
Technical	34	40%	51	60%
Machine Operation	25	29%	60	71%
Vocational	62	73%	23	27%

Participants n=158

Table 5
High School Curricula which links to a Career Path

Descriptor	Number	Percent
Yes	144	91%
No	14	9%

Participants n=158

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